

NGA

NOVEMBER/DECEMBER 2003

PATHFINDER

Know the Earth ... Show the Way



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NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY



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On the Cover

As the National Imagery and Mapping Agency becomes the National Geospatial-Intelligence Agency (NGA), a new seal captures the vision: "Know the Earth ... Show the Way." The globe symbolizes the totality of the mission. Its pixilization symbolizes the Agency's background in imagery analysis, while the grid evokes mapping. The radiating star above the Earth is showing the way toward new concepts, technology and products. The day and night depiction suggests the round-the-clock nature of NGA's work. The new seal includes a red compass, also found on the CIA seal. The compass or star, as some call it, has 16 points. These represent the worldwide search for geospatial intelligence and the navigational mission.

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On My Mind ...

Transforming Our Leadership Culture

In our current era of terrorism and uncertainty, transforming our leadership culture is crucial for NGA to advance national security. Agency employees must consistently demonstrate exemplary leadership skills as we apply our knowledge and cutting-edge technical skills to achieve our mission.

I like to think that leadership is motivating people to want to pursue shared aspirations. If we are to realize our full potential, we must set aside self-serving ambitions and tap into the collective energies of our work force. This capitalizes on NGA's inherent strengths and our customers' most fundamental needs.

NGA should be a place with room for creativity and individual variation. Just as we all have the capacity to be creative, I believe we all have the potential to lead. Leading is not necessarily defined by band level. Leaders can, and do, emerge wherever they are needed and are free to act. Actions of people during the Sept. 11, 2001 tragedy serve as a reminder of this great and often untapped potential.

As is true with any capability, there are leadership skills and techniques to be mastered. Phoenix, our new leadership development initiative, provides direction and opportunities for growing as a leader at NGA through a two-part initiative:

First, Phoenix clarifies our expectations of leaders at *all* band levels through our newly developed leadership profiles. The profiles answer the question *"If given the opportunity, what should an NGA employee at this level be capable of?"*

Second, Phoenix provides world-class leadership training and developmental experiences tailored to meet the needs of employees at all five band levels. Phoenix offers tremendous flexibility with a variety of program elements that can be adapted by individuals to suit their specific needs, interests and schedule. Investing in leadership development, while we continue to invest in technical skills development, is key to NGA's future success.

Phoenix is a partnership among the Agency, management and each person. In addition to developing leadership in individuals, Phoenix is an important part of building our single-Agency leadership culture. Phoenix cuts across all directorates, bringing together participants throughout the organization. Phoenix provides shared experiences that transcend our usual hierarchical boundaries and establishes a common leadership vocabulary. It is through these shared experiences and common vocabulary that, as an organization, we will experience clearer communications and deeper collaboration.

Phoenix lays out available opportunities, but each individual must consciously choose to participate in the activities and serve as a leader. Counselors in NGA's Leadership Development Centers (LDCs) are available to help



employees create their own leadership development plans. All leadership development programs currently under way in NGA fall within the Phoenix framework including the Leadership Continuum, Intelligence Community Officer Training, rotational assignments, continuing education and self-directed learning activities. Counselors will answer any Phoenix questions and support individuals in applying for the various opportunities. The LDCs are also staffed to support work-unit briefings on the Phoenix initiative.

Phoenix is a continuous process of personal preparation for leading here at NGA. It is not a fad; it will not disappear with the next budget cycle. Phoenix is the fundamental underpinning for NGA's leadership culture and will be sustained parallel to our excellent technical training. I challenge you to take advantage of the wide range of Phoenix leadership development opportunities.

A handwritten signature in black ink, reading "James R. Clapper, Jr." in a cursive style.

JAMES R. CLAPPER, JR.
Lieutenant General, USAF (Ret.)
Director

Phoenix Initiative Rising at NGA

By Karen Hickman

In Phoenix, NGA has a comprehensive leadership development initiative, one that will enable us to produce leaders who are prepared to accept the challenges facing this Agency in the coming years,” said Dave Broadhurst, Director, Training and Doctrine (TD).

NGA Director retired Air Force Lt. Gen. James R. Clapper Jr. and the Agency’s Statement of Strategic Intent have “made it clear that the training and education of our work force are critical to successful mission accomplishment,” Broadhurst added.

TD recently began a series of briefings designed to educate employees about Phoenix. An attendee at one of the supervisory briefings commented, “Excellent focus ... Another example of Gen. Clapper’s initiative to grow NIMA (now NGA) into a world-class organization!”

“Phoenix allows employees to forge a partnership with their supervisors to develop their full potential as leaders,” said Fran Early, Dean of the School of Leadership and Professional Studies (SLPS). “It offers all employees valuable leadership experiences that will be reflected in their resumes and stay with them for the rest of their careers.”

Phoenix is a two-part initiative that explicitly defines NGA’s expectations of its leaders and then offers support for meeting those expectations.

Leadership expectations are spelled out through a series of band-specific leadership profiles. Each profile answers the question “If given the opportunity, what *should* an NGA employee at this level be capable of?”

Phoenix supports leadership development by providing a single source for identifying leadership development opportunities at NGA. Eight unique program components have been aggregated to support the Phoenix initiative. All of the development opportunities are



Photo by Larry Franklin

A Leadership Development Center consultant (left) helps an employee tailor Phoenix to fit her interests and schedule. The program has eight components for employees to choose from in tailoring their leadership development plans.

employee-initiated and many are directly within an employee’s control. Opportunities include formal classroom training, mentoring and e-learning courses, to name a few.

various program components. The LDC counselors are specially trained to provide ongoing support to all Phoenix participants and their supervisors.

More information is on the way and will be available on the Phoenix Web

site and in the Phoenix Leadership Guide. The Guide will include Leadership Profiles for each of the five band levels, links to detailed information on leader-

ship development opportunities for each band, and instructions on getting started. The Leadership Guide will be made available through the Phoenix Web site before the end of the year.

PHOENIX

Employees interested in participating in Phoenix should document their desired leadership development activities in their Employee Development Plan (EDP). Counselors from the Leadership Development Centers (LDCs) are available to talk to employees about the details of the

About the Author

Karen B. Hickman, a participant in the Intelligence Community Assignment Program from the U.S. Army Intelligence and Security Command, is marketing program manager in the Training and Doctrine Directorate.

Phoenix—NGA's Transformational Leadership Initiative

If given the opportunity, an NGA employee should possess what leadership characteristics at each band level? Phoenix answers that question, while building a cadre of future leaders and a single-Agency leadership culture.

The goals of Phoenix are to—

- Create a consistent leadership culture across the organization.
- Develop future leaders with the competencies needed to support NGA's mission and core values.
- Enhance the performance of NGA leaders.
- Ensure a supply of potential leaders who can fill key leadership vacancies.
- Provide world-class career development opportunities that attract and retain top performers.

Phoenix offers employees—

- An opportunity to build leadership skills and knowledge. New insights and abilities will stay with employees throughout their careers, serving as a springboard to even greater learning opportunities.
- A means to demonstrate commitment to learning.
- An opportunity to show management they are serious about contributing to NGA's culture and mission.
- Networking opportunities with current and future leaders. Participants will develop a more diverse and extensive leadership network, spanning all directorates within NGA. This network of associates will provide new perspectives and contacts for meeting day-to-day challenges.

Phoenix offers supervisors and managers—

- Management training. Phoenix includes role-specific opportunities for NGA supervisors, including the Transition to Supervision (TTS) program. TTS will help new supervi-

sors develop the skills they need to succeed in their new roles. The Managing from the Middle program enhances the management skills of supervisors with two to five years of experience. Whatever the band level, Phoenix provides opportunities to become a better manager.

- Staff development. Phoenix offers supervisors a clear, structured approach to meeting their obligations to develop their team. As employees gain leadership skills and knowledge through Phoenix, supervisors will benefit from being able to delegate tasks and responsibilities with greater confidence.
- Team cohesion and buy-in. Participating in Phoenix will immerse employees in the NGA leadership culture, increasing their awareness of management priorities and rationales for decision making.
- Retention of high-performance employees. Supervisors will benefit from increased morale and commitment among high-performing employees because Phoenix provides world-class leadership development opportunities as a free benefit.

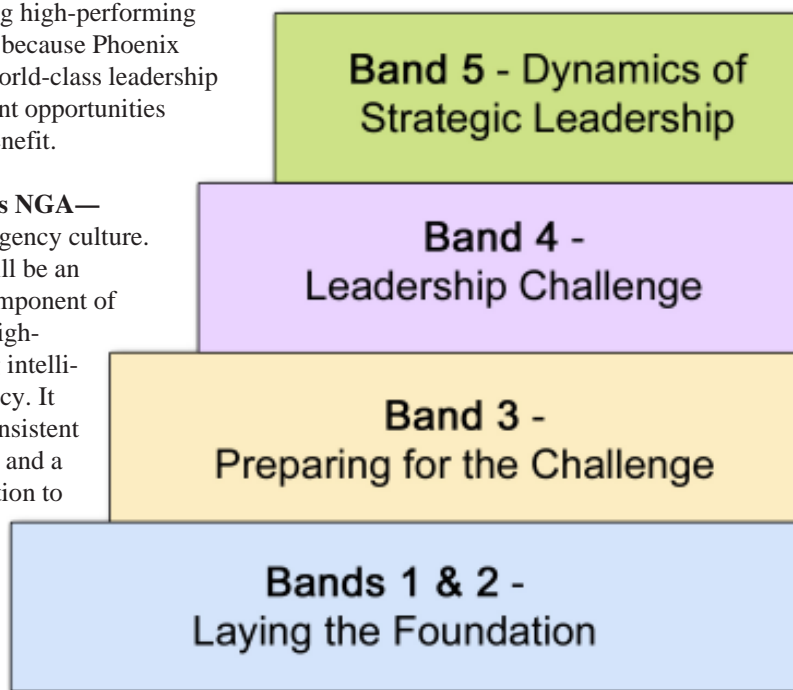
Phoenix offers NGA—

- A single-Agency culture. Phoenix will be an integral component of NGA—a high-performing intelligence agency. It brings a consistent vocabulary and a clear direction to growing as a leader.

By helping to integrate employees into NGA's single-Agency culture, Phoenix will enable them to contribute more fully to NGA's mission and goals.

- The ability to attract and retain high-quality talent. With a broad range of opportunities for employees in bands 1 through 5, Phoenix will help attract and retain high-quality talent.
- Deeper collaboration and clear communication. The common vocabulary and set of skills and practices employees learn through Phoenix will set the stage for deeper collaboration and more clear communication among staff.
- A pool to fill leadership gaps. Phoenix will help prepare staff at all levels to fill leadership gaps that will occur during the next few years.

Leadership Continuum



Cornerstone courses are NGA-specific courses that provide a common leadership experience for Phoenix participants. Cornerstone courses are designed to meet the specific leadership expectations of a given band level.

Phoenix Leadership Development Opportunities

Whether employees are leading or following at NGA, Phoenix brings consistency to their efforts through a shared understanding of the skills and competencies that make up NGA's leadership culture. Phoenix's eight leadership development opportunities identify the framework for building a single-Agency culture at NGA. Briefly described, these opportunities are:

- **Self-directed learning activities.** The most flexible type of developmental opportunity is focused on employees developing in specific areas according to their own needs and schedule. Examples include reading leadership books, taking Web-based training and listening to or watching tapes on leadership.

- **Continuing education,** including college courses designed to develop a range of leadership competencies. Employees can participate in a single course to develop specific, targeted competencies or a degree program designed to improve a number of leadership areas.

- **Special programs** that provide long-term opportunities (1-2 years) that may involve a series of

courses, rotations, team assignments and other learning opportunities.

- **Classroom training** which can be used to gain leadership knowledge, focusing on a wide

one leadership development. Mentors are regarded as an authority in their area of expertise and lead by example. They can help employees identify the right kinds of developmental opportuni-

ensure they have the skills they need to fill their role effectively. They include NGA's Transition to Supervision and the forthcoming Managing from the Middle courses.

- **Action learning opportunities,** which are formal rotational or developmental assignments or short-term projects. These opportunities are limited only by the participant's imagination and may include, for example, a technical editor taking a three-month rotational assignment in the Public Affairs Office.

- **Cornerstone courses** which are NGA-specific courses that provide a common leadership experience for Phoenix participants. Cornerstone courses are designed to meet the specific leadership expectations of a given band level.

To learn more about Phoenix leadership development opportunities, check out the Training and Doctrine home page or contact one of the NGA Leadership Development Centers in Bethesda, Md., or St. Louis, or at the Washington Navy Yard.



Eight Program Elements of Phoenix

range of topics including team building, conflict management and effective communications.

- **Mentoring,** which provides an excellent opportunity for one-on-

ties needed to build leadership skills.

- **Role-specific opportunities.** These are courses designed for supervisors and managers to

Letter to the Editor

Mapping Thailand

To the Pathfinder:

The article "Thailand Re-Mapped in Unparalleled Cooperative Effort" (July/August *Pathfinder*) had special interest for me, since I was deeply involved in mapping Thailand in the 1950s and '60s. King Bhumipol Adulyadej Maharaj's interest in mapping goes back to the earliest days of that program because it was providing the first reasonably accurate and complete mapping of his country. It was done jointly with the Royal Thai Survey

Department (and used lots of contractors). The king kept close watch and took the princess (Maha Chakri Sirindhorn, his daughter) with him when she was a young girl. (She has since studied remote sensing and is a patron of the RTSD, the article notes.)

It was slow going—using traditional geodetic techniques to establish the necessary ground control and at times using elephants to haul the Bilby towers for the surveyors. Since the establishment of geodetic control

at that time involved line-of-sight observations, Bilby towers—a steel framework fairly easily taken down and re-erected—were used to gain greater distance between observation points in flat terrain.

We finally got it done, I had a chance to meet the king along the way, and some of us received a nice medal from him upon completion of the project. Unfortunately, RTSD got bogged down in a 1:25,000-scale program and couldn't put the resources into maintaining those

1:50,000 scale maps—until [as the article explains] the king got their attention. (In December, NGA and RTSD are scheduled to finish re-mapping Thailand in a years-long joint project.)

Al Anderson

Allen E. Anderson was the Defense Mapping Agency deputy director for programs, production and operations before retiring in 1986.

JMIC to Offer Master's Degree at NGA

By Amy Murray

An exciting development for the entire Intelligence Community (IC) is the recent agreement between NGA's National Geospatial Intelligence College (NGC) and the Joint Military Intelligence College (JMIC). Dave Broadhurst, Director of NGA's Training and Doctrine Directorate (TD), and Denis Clift, President of JMIC, have signed an agreement establishing an NGA Graduate Center. The center will offer JMIC's Master of Science of Strategic Intelligence (MSSI) program to NGA and other IC personnel.

JMIC is the nation's center of excellence for the education of America's intelligence professionals. Chartered by the Department of Defense in 1962 and accredited by the Middle States Commission on Higher Education, JMIC offers degree and certificate programs in intelligence at the graduate and undergraduate level.

"The collaboration between the NGC and JMIC is very exciting," said TD Chief of Staff P. J. Rooney. "It will provide educational opportunities to future leaders of the intelligence and national security communities while also offering an accredited master's degree."

According to JMIC Provost Ron Garst, "The College is having a profound impact on national security as increasing numbers of graduates advance to senior leadership positions throughout the Intelligence Community." Garst noted that JMIC alumni include the current director of the National Security Agency, a former director of the Defense Intelligence Agency and many current office chiefs, deputies and staff officers throughout DoD and the IC. He also noted that "General Clapper was a member of our adjunct faculty."

The satellite program at NGA will be tailored for government and military personnel who are interested in the JMIC MSSI degree with a concentration in geospatial intelligence (GEOINT). The program will be made available to 20 new students each August.



Denis Clift, President of the Joint Military Intelligence College, and Dave Broadhurst, Director, NGA Training and Doctrine Directorate, sign an agreement to offer the College's Master of Science of Strategic Intelligence at NGA.

Students will enter into a two-year, part-time program at NGA's Graduate Center at the Washington Navy Yard campus and if technology permits, via video conferencing to the St. Louis campus, beginning in the fall of 2004.

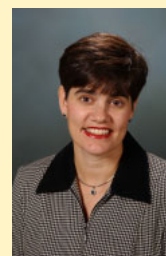
"What makes this undertaking so unique," according to TD Deputy Director Sam Birchett, "is that JMIC has formally recognized the discipline of geospatial intelligence studies and in doing so is committed to building a curriculum around it."

The MSSI curriculum offered at the JMIC/NGA satellite campus consists of a combination of core courses, electives and a master's thesis on an intelligence- or national security-related topic. JMIC faculty will teach the MSSI core courses while adjunct faculty members, who are senior NIMA professionals and subject matter experts, will teach the GEOINT electives. Students will complete courses during duty

hours for seven academic quarters.

"For the Intelligence Community," Broadhurst emphasized, "this study develops a blend of professional skills and intellectual capacities meant to guide the careers of those who will be the leaders of the intelligence profession long after they leave the Graduate Center."

The first call for applications will occur in January 2004, according to Chuck Norville, NGA's JMIC academic affairs director. Applicants must provide a copy of their undergraduate degree transcript, a writing sample and recent Graduate Record Exam (GRE) results.



About the Author

Amy Murray is Director of the Master of Science of Strategic Intelligence Program. She has worked in the Training and Doctrine Directorate for five years and has managed several executive training programs.

New Name Symbolizes Profound Change For National Geospatial-Intelligence Agency

With the Nov. 24 signing of the fiscal 2004 Defense Authorization Bill, the National Imagery and Mapping Agency (NIMA) officially became the National Geospatial-Intelligence Agency (NGA).

“The new name—NGA—better reflects the completeness of what this Agency does and the value we bring to national security,” says Office of Corporate Relations Director Mark Schultz. “NGA provides geospatial intelligence to the nation’s war fighters and senior policy-makers.”

Geospatial intelligence, or GEOINT, is the exploitation and analysis of imagery and geospatial information to describe, assess and visually depict physical features and geographically referenced activities on Earth.

Following the tragic events of Sept. 11, 2001, NIMA accelerated the convergence of various analytic tradecrafts (cartography, geospatial analysis, imagery analysis, marine analysis, aeronautical analysis, regional analysis and geodesy) into the new discipline. Supporting both homeland security and combat operations forced creative thinking and innovation to become standard. Analysts collaborated in unique ways, using emerging technology to develop specialized

GEOINT products for a growing and diverse customer base. At the same time, senior leadership completely revamped coordination practices while inserting new business processes, all within an environment of urgency.

Greater than the sum of its parts, GEOINT provides a more complete visualization of geographically referenced areas on Earth. Products and services that leverage the power of this fusion range from deployed targeting to animated fly-throughs.

With GEOINT, decision makers are empowered to view the geographical context of their situation, visualize national security events as they unfold, and “see” possible outcomes as a

situation develops. The application of GEOINT has helped to shorten military operations and save lives. Customers understand, and in fact, now demand GEOINT as a critical part of their intelligence preparation of the battle space.

While the new Agency name symbolizes a profound change, the implications of the change are ongoing, as NGA keeps changing to meet new challenges.

NGA continues NIMA’s role as both a national intelligence and combat support agency. Headquarters remain in Bethesda, Md., with major facilities in the Washington, D.C., and St. Louis metropolitan areas and support teams worldwide.

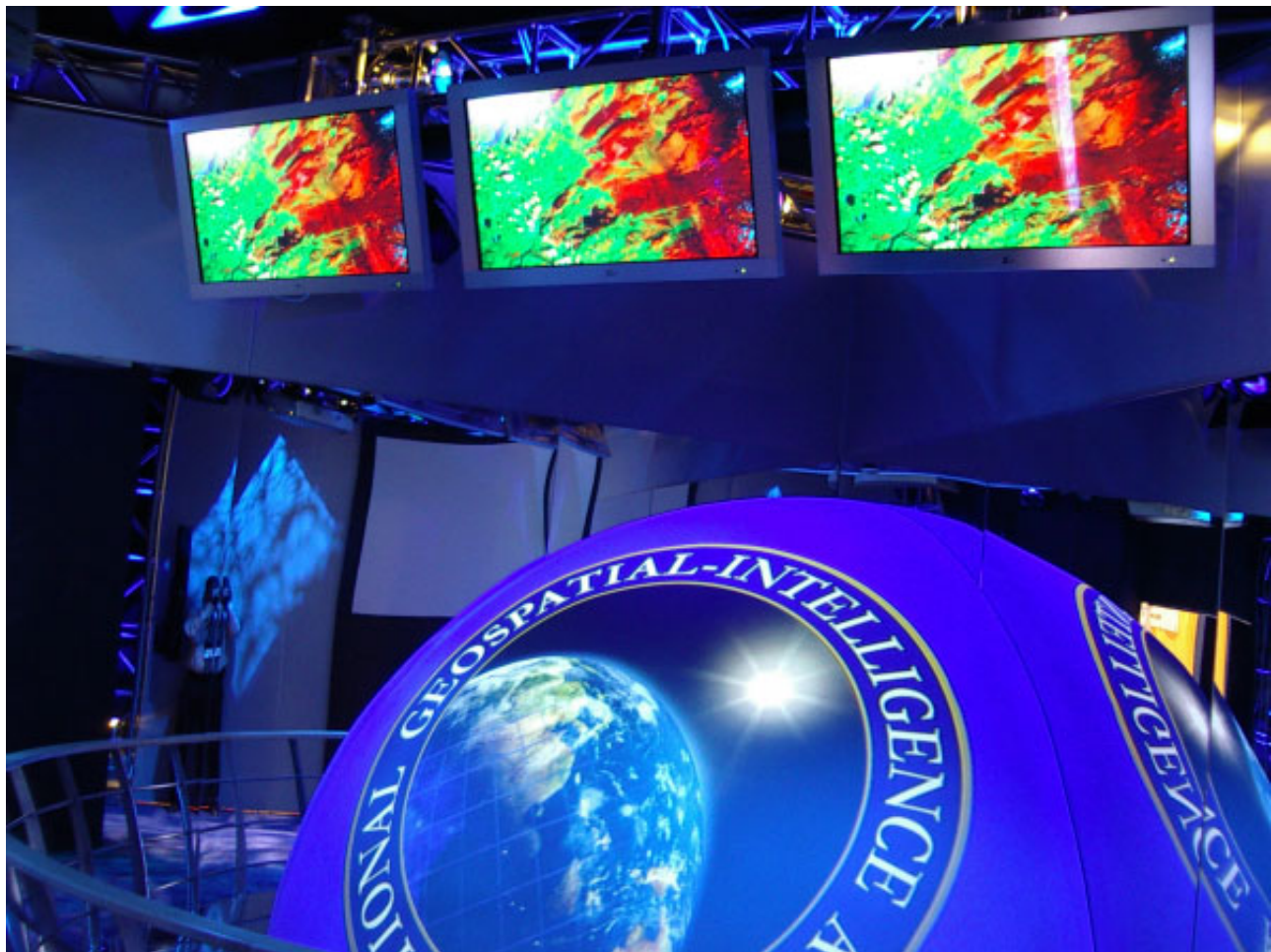


Photo by Muridith Winder

A multi-dimensional exhibit captures the profound change symbolized by the Agency's name change.

“Transformation” Is Word du Jour at Geo-Intel Conference

By Jennifer Lafley and Muridith Winder

“Transformation” seemed to resonate from speaker to speaker at the first-of-its-kind Geo-Intel 2003 Symposium, held in New Orleans Oct. 14-17.

Sponsored by the Spatial Technologies Industry Association, with NGA in a starring role, the conference was a forum to discuss the emerging role of geospatial intelligence in national security, homeland defense and the war on terrorism.

Senior representatives of the intelligence, military, policy, budget and program, congressional and business communities participated. The impact of NGA in the transformation of the Intelligence Community (IC) and emergence of geospatial intelligence (GEOINT), however, was ever-present—in presentations, displays, and panel and individual discussions.

Typical of the many thought-provoking presentations was that by Rich Haver, vice president for Intelligence Strategy at Northrop Grumman and former special assistant to the Secretary of Defense for Intelligence. Organizational transformation should not be an “evolution” but a “revolution,” Haver said, as he argued for a faster transformation based on customers’ changing needs and use of technology to access information.

An effective offense is the only way we can effectively defend against—and defeat—the asymmetric threats confronting us, Haver added. To gain victory, he advocated an integrated enterprise that encompasses all sources of information. He also argued that the Department of Defense (DoD) transformation goals were too “lofty.” Achievable, short-term objectives are needed, he said.



Photo by Muridith Winder

NGA Director retired Air Force Lt. Gen. James R. Clapper Jr. answers questions at a news conference during Geo-Intel 2003.

USD(I) Focuses on Threat

In his address, the Under Secretary of Defense for Intelligence, Dr. Stephen A. Cambone, praised what NGA has done and where it’s headed.

“I pay homage to [NGA Director retired Air Force Lt. Gen. James R.] Clapper [Jr.] and what he’s accomplished,” Cambone said. “He put the ‘sizzle’ into GEOINT.” The transforma-

Cambone likened “persistent surveillance” to a jigsaw puzzle, with the DoD and IC hunting for pieces to construct a picture that is completely unknown. However, he stressed that persistent surveillance is not accomplished solely with space-based radar/imagery.

“All the INTs (intelligences) must work together to provide a richer picture and enhanced knowledge,” he said.

Cambone also said that obsession with security prevents information sharing, which is going to be required to achieve a true horizontally integrated environment. Those in authority should not

be wedded to old processes and policies but push for “out-of-the box thinking” and innovative solutions, he said.

Cambone said that Congress has provided the resources for DoD transformation. Industry will provide the

GEOINTEL 2003 Geospatial Intelligence & Information for the Nation

tion of DoD is essential for effectively fighting the asymmetric threat, he said. Cambone cited the need to link the various intelligence disciplines. One of DoD’s principle objectives is to ensure adequate communication and synchronization of combat support centers as part of the IC, he said.

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“Transformation” Is Word du Jour at Geo-Intel Conference

continued from page 9



Photo by Rob Cox

The direction of technology was on view in the many exhibits at the Geo-Intel 2003 Symposium.

systems and tools. Colleges and universities are replete with the requisite talent. It is up to the leaders within the IC to provide vision and direction to the overall effort.

NGA Leaders Participate

Speaking on the state of NGA, Clapper said, “we must not just transform ourselves, but our users as well.” He surprised some in the audience by unveiling the new Agency seal, which he described as part of the transformation to a new discipline, which is “truly greater than the sum of its parts.”

“I’m not selling GEOINT as the ‘be all, end all,’” he added. “It serves as a foundation for commonality in the Intelligence Community.”

NGA key component leaders also spoke in a panel presentation—“People, Process and Technology,” addressing what they consider to be the key components of the Agency’s transformation. The panelists were the Directors of Analysis and Production (P), Acquisition

(A), InnoVision (I), Strategic Transformation (T) and Source Operations and Management (S).

Mark Lowenthal, Assistant Deputy of Central Intelligence for Analysis and Production (ADCI/AP), spoke on behalf of Charlie Allen, ADCI for Collection, and himself. “GEOINT makes sense; it matters because it is a true fusion of analogous but not identical entities,” he said. “GEOINT breaks down stovepipes and focuses on the content and not on the technology that delivers the content.”

“Horizontal integration” has value only if it becomes the mechanism to break

down the stovepipes embedded in the intelligence cycle and really integrate all sources of information,” Lowenthal said.

A major concern for Lowenthal is that the push for horizontal integration will focus too much on technology. He urged industry and government not to build technology and insert it without consulting the user. Developers of new technology should be asking users, “How does this help?” he said.

“If [the new technology] is a way for the analyst to achieve all-source integration, that is a good goal ... However, if the concentration is only on technology, we might as well go home,” he said. “We need safeguards, not show-stoppers.”

The war on terrorism “is not like any war we have ever fought,” according to Lowenthal. “We have no idea what this will look like at the end.” He reminded the audience that George Tenet is the 18th Director of Central Intelligence, but in the aftermath of Sept. 11, 2001, he has become the first full-time, wartime DCI. “The operational tempo in the DCI’s office is incredibly fast, and the intelligence cycle is much faster than ever before,” he added.



Photo by Muridith Winder

NGA key component leaders discuss the Agency’s transformation, from left, Director of Analysis and Production Tom Coghlan, Director of Acquisition Jaan Loger, Director of Source Operations and Management Robert Cardillo, Director of Strategic Transformation William Allder, and Director of InnoVision Robert Zitz.

Lowenthal urged the IC to provide better job training to analysts. They continue to live in a “push world, not a pull world,” he said. “The analyst is not a customer—policy-makers are customers.”

In conclusion, Lowenthal quoted a Pogo cartoon, in which Pogo says, “we are faced with insurmountable opportunities. We are thinking out-of-the-box, because what else can we do?”

Robert Kerry, former senator from Nebraska and now president of the New School University, commended NGA and Clapper on the progress the Agency had already made in transformation. He contrasted this visionary change with the shortsightedness that often characterizes the actions of Congress.

According to Kerry, it is difficult for members of Congress to understand strategic transformation. Their terms of office are often shorter than the minimum time required for long-term thinking and planning, which are the requisites for effective transformation. He ended his talks with “The best dot connector is the human brain ... investing in people is the critical piece.”

First Responders Weigh In

Representatives from state first-responder organizations in New York City and New Orleans joined with officials of the Department of Homeland Security (DHS) in a lively panel discussion.



Photo by Rob Cox

A New Orleans marching band entertains at the Geo-Intel 2003 Symposium.



Photo by Jennifer Lafley

Al League, Director of NGA's Geospatial Intelligence Advancement Testbed, left, discusses the future of geospatial intelligence with Dr. John Stopher, professional staff member on the House Permanent Select Committee on Intelligence.

sion. The state panelists discussed their concern about operating essentially without any federal guidance in many important areas such as information sharing. They all called for some type of policy or procedure from DHS to improve coordination. Without any central direction or unity of effort, there is substantial duplication of effort at the state level, they said.

First responders called for sharing information rather than states struggling to develop and maintain their own databases, which will at some point become problematic as well as costly. The DHS representative acknowledged their concerns but did not promise any simple, short-term solution. He did describe the strides DHS has made in standing up an organization built of so many different legacies, an idea familiar to NGA participants at the session.

Views from Washington

The final panel discussion featured members of Congress connected to the conference through video teleconferencing. They praised the newfound cooperation between government and industry and looked forward to what the future holds for GEOINT, and one congressman went out of his way to praise NGA and its success in Iraq.

“I’m proud of the creation of NIMA [now NGA],” said Rep. Norman Dicks, a member of the House Select Committee on Homeland Security and Appropriations. “It has been an enormous success.”

“I’ve been in the Gulf area three times and what [NGA] has been doing there is received with great applause,” Dicks added. “There’s better imagery support now than during Desert Storm and Desert Shield.”

Industry was also well represented at the conference, and there were calls for an enhanced government/industry partnership to achieve mission success. The direction of technology was on view in the many exhibits showing the latest innovations.

About the Authors

Jennifer Lafley is in charge of communications in the InnoVision Directorate. **Muridith Winder** works in Corporate Relations as editor of the Digital News.

Data Management Is Key Theme at ASPRS-MAPPS Conference

By Sabine Pontious

How to manage and fuse tremendous volumes of disparate data—that's a major challenge the geospatial community must address, according to Roberta "Bobbi" Lenczowski.

NGA's Technical Executive, Lenczowski was the keynote speaker at the fall conference of the American Society of Photogrammetry and Remote Sensing (ASPRS) and the Management Association for Private Photogrammetric Surveyors (MAPPS) in Charleston, S.C., Oct. 26-30.

Government sponsors included the NGA, U.S. Geological Survey (USGS), National Aeronautics and Space Administration (NASA) and National Oceanic and Atmospheric Administration (NOAA).

Geospatial data management—processes to systematically organize geospatial data and make it available to all users—was a common theme at the conference, which drew some 450 people from the federal, commercial and academic sectors.

Keynote Message

Keynote speaker Lenczowski discussed the evolving role of three-dimensional visualization as applied to homeland security and disaster-response situations. Advances in technology, she explained, are making such tools more accessible to users—including the media and the public.

Geospatial data management issues that the community must address include how to qualify, correlate, catalog, store, protect, automate, apply and share the information, she said. One crucial consideration will be the ultimate user-friendliness of the data interface.

"We should ask ourselves, 'Is ours the most appropriate and timely information, with the least confusing presentation?' ... We have no choice but to improve these



Photo by Sabine Pontious

NIMA (now NGA) attracted hundreds of visitors to its booth at the Charleston, S.C. Convention Center.

processes," she continued. "Change is mandatory."

Lenczowski advocated a national spatial data infrastructure such as the "National Map." This project, according to its principal developer, USGS, is "a digital database that will provide a single, consistent mapping framework for the country." It will "help bridge inconsistencies among existing data developed for different jurisdictions" and "eliminate gaps for those places where data are lacking."

In addition to supporting the National Map effort, NGA belongs to a coalition of federal and commercial entities working to foster interoperability and map sharing through the Homeland Infrastructure Foundation Level Database.

By establishing baselines for geospatial information, such programs help the

nation prepare for, and respond to, all kinds of crises. They serve to counteract what Lenczowski termed the "dangerously disconnected and historically stovepiped missions" of organizations sharing homeland security and disaster-response functions.

Fortuitously, Lenczowski was able to announce the signing, that very day, of a memorandum of understanding between NGA and USGS providing for the "delivery, dissemination and archiving" of digital terrain elevation data (DTED®) collected in the 2000 Shuttle Radar Topography Mission.

This milestone marks the availability of its highly accurate, nearly worldwide data to the public through the USGS Earth Resources Observation Systems Data Center. This information, she said, "has already played a significant role in our global war on terrorism."

Homeland Security Ramifications

The conference's first open session featured a briefing on NGA's homeland security efforts from Chris Viselli and Mike Utterback of the Domestic Operations and Protection Branch.

The mission of their office, established after Sept. 11, 2001, is to assist in domestic disaster preparedness and vulnerability studies for special events having national security implications, when requested by other federal lead agencies such as the Federal Bureau of Investigation or the Secret Service.

They collect mission-specific data from myriad sources—federal, municipal and commercial entities—then standardize and integrate it to create a common operational picture for security teams, law enforcement officers and first responders. Their geospatial and visualization products create a virtual analytic environment: a coherent spatial context to help track, over time, the many apparently disjointed incidents and concerns of the on-site authorities.

By improving situational awareness, they help security officers make decisions that allow them to control the environment and effectively allocate their personnel.

Viselli and Utterback demonstrated products including a fly-through designed for area familiarization; line-of-sight analysis for counter-sniper and counter-surveillance operations; and hazard assessments to identify potential choke points on a motorcade route and unauthorized access points at a venue.

One general session topic that generated much discussion was Intermap Technologies Corporation's unveiling of its "NEXTMap USA" project. Currently under development, this project will collect and market "comprehensive and current" high-resolution terrain elevation information across the continental United States. Intermap intends to sell this data at "affordable" prices through its online store.

In scattered conversations after the presentation, attendees discussed the program's implications regarding homeland security.



Photo by Sabine Pontious

Keynote speaker Bobbi Lenczowski (right) meets ASPRS President Donald Lauer (center) and President-Elect Russell Congalton.

Future of Terrain Data

In another session, Scott Loomer of the InnoVision Directorate's Advanced Research and Development Division described NGA's Academic Research Program. This partnership between NGA, professional societies and academia allows researchers to pursue grants to explore new techniques and applications in pursuit of our common geospatial goals.

A separate transition program then investigates a given project's commercial feasibility.

Rich Stammler of InnoVision's Frontiers Office spoke at the closing session on future information needs for high-resolution terrain elevation information. His job is to "look 15 years into the future and prepare our Agency" for that time, he said.

Referring to Laser Identification Detection and Ranging (LIDAR) as a military "force enabler," Stammler cited its effectiveness in foliage penetration, change detection and automated feature extraction. He also outlined improvements under way in data processing, bandwidth and dissemination, as well as visualization tools.

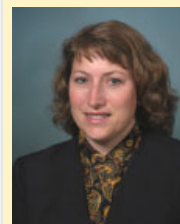
Bringing Together People and Ideas

In addition to the conference's varied briefings and workshops, the exhibit hall offered literature and demonstrations

from scores of government, industry and academic stakeholders. NGA's booth attracted software vendors, commercial imagery partners, weapons developers, colleagues from other sponsor agencies and graduate students hoping to work for NGA.

Lenczowski, in her keynote address, urged the mapping and geospatial community to take full advantage of forums such as this conference to address the current challenges by capitalizing on the professional diversity of attendees, opening dialogues with colleagues and strangers, and discovering new and better ways of doing business.

ASPRS will host its annual conference in Denver next May.



About the Author

Originally an imagery analyst at the Washington Navy Yard, Sabine Pontious became a staff officer at the Pentagon in 2001, then relocated to Bethesda. She is currently on rotation to Public Affairs from the Analysis and Production Directorate.

Directorate Widens Gateway to Meet Customer Demand

The Geospatial-Intelligence Technical Service Directorate (GT) realigned several of its functions earlier this year to be more responsive to mission requirements. The result of these organizational changes was evident during support of Operation Iraqi Freedom (OIF), allowing GT to respond to customer operational needs while leading the Agency's information technology modernization efforts.

With the war in Iraq imminent, GT widened its electronic "Gateway" for geospatial intelligence (GEOINT) requests by improving network performance and services and through the insertion of new and innovative technology.

In fiscal 2003, Gateway Web Services received 96.2 million hits, an increase of 38 million over the previous fiscal year. GT has continued to improve and expand NGA's communication infrastructure; as a result, 16.8 terabytes of data were downloaded in fiscal 2003, an increase of 6.1 terabytes over fiscal 2002.

The expanded use of commercial imagery is an example of GT's success in supporting the insertion of new technology; GT processed 88,000 Commercial Satellite Image Library (CSIL) images for customers, part of a

threefold increase in imagery cells processed.

GT also printed 74 million maps for bulk distribution during fiscal 2003. The Navigation Safety System's (NSS) Web site averaged more than 500,000 hits per month, and about 100 gigabytes of navigation-related information were distributed to military and civilian customers alike during OIF.

Iraqi Freedom heightened the Agency's sense of urgency—to be responsive regardless of what it took, to give war fighters every possible advantage with the best GEOINT products and services available. GT expanded its support to 24-7 for the Crisis Action Team (CAT) and Dissemination Services Team (DST).

GT's mission is to support customers' technical infrastructure and dissemination needs, and to work closely with other Agency key components to help achieve NGA's collective mission. Additionally, the Directorate ensures national policy-makers get what they need to effect the optimum decision, anticipate and ensure the war fighter has the geospatial intelligence advantage, and knows how to use these new capabilities. GT's attitude of "Better to

have and not need than to need and not have" in supporting customer requirements ensured it met all approved product and service requirements received were met.

A team of GT's Remote Replication System (RRS) operators deployed to extensively support another national priority, helping the National Aeronautics and Space Administration and Federal Emergency Management Agency with the Space Shuttle Columbia recovery mission during OIF.

NGA's successes are dependent upon a highly skilled and motivated work force that performs its tasks with a strong sense of urgency as it continues to support our nation's priorities, to include the war on terrorism. NGA, the Intelligence Community, and our nation can count on GT to give it our best and more!

—Geospatial-Intelligence Technical Service Directorate



Air Force customers review maps produced on NGA's remote replication system (RRS) for a joint task force exercise.



Photo by Al Schulte

Gateway Web services personnel post and review information. NGA's communications infrastructure continues to expand.

NOW

NGA Supports Army Future Combat Systems

NGA and Army leaders have established a working group focused on the geospatial intelligence (GEOINT) needs of Future Combat Systems (FCS). The FCS program will identify promising systems and technologies to achieve the Army's vision of fielding—by 2012—an Objective Force centered on the precept “See first, understand first, act first and finish decisively.”

Objective Force will enable the Army to put a combat-capable brigade anywhere in the world within 96 hours, a full division in 120 hours, and five divisions on the ground, in theater, within 30 days.

FCS will be a family of advanced, networked air- and ground-based maneuver, maneuver-support and sustainment systems, both manned and unmanned. When

warning orders are issued in the future, Army units will simultaneously be integrated into the U.S. Forces Command, Control Communications, Computers, Intelligence and Surveillance Network. This network will make a common operating picture available to commanders at each echelon as they receive guidance on their mission.

A common geospatial framework is key to the FCS and must be built in early in the development process. Helping FCS define this framework is part of NGA's responsibility as functional manager for GEOINT. The InnoVision Directorate's Future Warfare Systems Office is leading the effort.

Besides representatives from several NGA offices, the working

group includes members from Army Intelligence (G2), the Army Training and Doctrine Command, Topographic Engineering Center and FCS Program Office.

NGA is well-positioned to provide the critical baseline data and follow-up data to support rapid-response land combat operations.

The working group will map existing and emerging technologies to meet FCS requirements. In areas where current and planned NGA capabilities do not meet the needs of FCS,

alternative solutions will be explored.

—Army Lt. Col. John “Boom” Minto and Daniel Coombes



Courtesy of the Army Objective Task Force

This artist's drawing of the Future Combat System (FCS) command and control vehicle was completed in July. NGA is supporting the FCS program to identify promising systems and technologies to achieve the Army's vision of fielding an Objective Task Force by 2012.

Acquisition and Engineering Processes Rated

Eight of 10 NGA acquisition and engineering processes evaluated in October and November by the Software Production Consortium (SPC) are performing at Level 3 on the Federal Aviation Administration's Integrated Capability Maturity Model (iCMM).

The result exceeded by far the expectations of the Directorate of Acquisitions Process Improvement Initiative, which had asked SPC to evaluate the 10 processes on a scale from 1 to 5, with 5 the highest level of “process maturity.”

At Level 3, an organization uses standard processes that are

repeatable from project to project, and good practices from one project are incorporated into all subsequent projects.

The eight processes rated at Level 3 were Needs, Requirements, Outsourcing, Contract Management, System Test and Evaluation, Transition, Configura-

tion Management and Risk Management. (Project Management was rated at Level 2, and Quality Assurance was rated at Level 1.)

SBC is a private consortium of software manufacturers and systems developers.

—Howard Pierce

NEXT

NGA System to Go IC-Wide

One of NGA's key systems to support the war on terrorism will soon be available throughout the Intelligence Community.

The Geospatial Intelligence Database Integration (GIDI) system will interface with the Intelligence Community System for Information Sharing (ICSIS), providing broad access to NGA-developed geospatial intelligence (GEOINT) while improving information sharing and collaboration.

In its initial operating capability, scheduled for January, ICSIS will provide geospatial data over a small area of interest.

The vision is to incrementally establish an authoritative, integrated environment that will serve as NGA's enterprise Geographic Information System (GIS) for the production and dissemination of geospatial intelligence (GEOINT).

Officials of NGA's Analysis and Production Directorate have identified GIDI's development as one of their top priorities.

As described in the March-April *Pathfinder*, the first release allowed users of two predecessor systems to share data, and a

second release met requirements for homeland security and air defense. Two more recent deliveries have increased GIDI's rapid-response capability and doubled NGA's production capability for homeland security, among other enhancements.

In February, the Agency's GeoScout contractor is scheduled to assume responsibility for and assimilate GIDI into the new NGA enterprise system solution.

GeoScout is the Agency's principle vehicle for delivering transformed mission and

corporate capabilities through systems architecture. GeoScout has scheduled incremental deliveries of expanded GEOINT capabilities every three months.

As new requirements are identified, GeoScout and NGA will assess how to best implement them in the new GeoScout architecture.

—Larry Feidelseit

It's Official—



Department of Defense photo by Helene C. Stikkel

President George W. Bush (seated), surrounded by members of Congress and senior Defense Department leaders, signs the National Defense Authorization Act at the Pentagon Nov. 24. The Act, which authorized the Defense Department's budget, also enabled NIMA to change its name to the National Geospatial-Intelligence Agency.